



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,734	03/16/2004	Tetsurou Oomori	60188-804	1039

7590 03/28/2007
Jack Q. Lever, Jr.
McDERMOTT, WILL & EMERY
600 Thirteenth Street, N.W.
Washington, DC 20005-3096

EXAMINER

TRAN, MY CHAU T

ART UNIT	PAPER NUMBER
----------	--------------

2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/800,734

Applicant(s)

OOMORI ET AL.

Examiner

MY-CHAU T. TRAN

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 17-28,31,34-37 and 39-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,7,9-12,16,29,30,32,33 and 38 is/are rejected.
- 7) ☒ Claim(s) 3-6,8 and 10-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/16/04 & 12/28/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Application and Claims Status

1. Applicant's response filed 02/22/2007 is acknowledged and entered.
2. Claims 1-42 are currently pending.

Election/Restrictions

3. Applicant's election of Group I (Claims 1-16, 29, 30, 32, 33, and 38) in the reply filed on 02/22/2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
4. Claims 17-28, 31, 34-37, and 39-42 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to *nonelected inventions*, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 02/22/2007. Therefore, claims 1-16, 29, 30, 32, 33, and 38 are under consideration in this Office Action.
5. Additionally, it is noted that in the previous Office Action mailed 01/23/2007 a typographical error was made inadvertently regarding the claims of Group IV, i.e. claims to Group IV are 23-28 and 37 instead of claims 23-29 and 37 as indicated in the previous Office Action, and the examiner apologizes for any inconvenience this may have caused.

Priority

6. Receipt is acknowledged of papers, (i.e. Japanese Patent Application No. JP 2003-105694, filed on April 9, 2003), submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

7. The information disclosure statements (IDS) filed on 03/16/2004 and 12/28/2006 have been reviewed, and the references that have been considered are initialed as recorded in PTO-1449 form(s).

Drawings

8. Figures 23-26 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Here, the instant specification has indicated that figure 23 is a depiction of a 'conventional organic EL display apparatus', i.e. prior art, and figures 24-26 further depict the apparatus of figure 23 (see specification pgs. 2-6, especially pg. 2, lines 5-6).

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 9 recites the limitation "*third switches in the current setting mode*" in line. There is insufficient antecedent basis for this limitation in the claims 1 and 7. That is neither claim 1 nor claim 7 recite the structure limitation of "*third switches in the current setting mode*". Accordingly, claim 9 is rejected under 35 U.S.C. 112, second paragraph. It is suggested that claim 9 be amended to depend on claim 8 in order to overcome this rejection.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 2, 7, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokimoto et al. (EP 1204087A1).

For *claims 1, 2, 7, and 32*, Tokimoto et al. disclose a full color LED display system (see e.g. Abstract; col. 1, [0001]; col. 5, [0019]). The system comprises a screen module (refers to

Art Unit: 2629

instant claim display panel) with a multitude colors LEDs (refers to instant claimed light emitting device) in an orderly array (ref. #10 of fig. 1), and a data distributing circuit (ref. #3 of fig. 3)(refers to instant claimed source driver)(see e.g. col. 6, [0020]; col. 12, [0035]-[0038]; figs. 1 and 3). As illustrated in fig. 1, the data distributing circuit comprises registers (ref. #31, 32, and 33), a clock generator (ref. #42)(refers to instant claimed a timing control), current drivers (ref. #21, 22, and 23), comparators (ref. #51, 52, and 53), and counter ((refers to instant claimed voltage setting means)(see e.g. col. 12, [0036]-[0040]; col. 13, [0041]-[0044]; col. 14, [0048]; col. 15, [0050]). Tokimoto et al. disclose that the value of the current output from the current driver is larger than or equal to a current value set with the display data output from the register and changes stepwise during the given period in the current setting mode (refers to instant claim 2 and 7)(see e.g. col. 12, [0039]-[0040]; col. 13, [0042]-[0044]).

Therefore, the device of Tokimoto et al. does anticipate the instant claimed invention.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 29, 30, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokimoto et al. (EP 1204087A1) in view of Saitou (US Patent 6,191,535 B1).

For *claims 29 and 38*, Tokimoto et al. disclose a full color LED display system (see e.g. Abstract; col. 1, [0001]; col. 5, [0019]). The system comprises a screen module (refers to instant claim display panel) with a multitude colors LEDs (refers to instant claimed light emitting device) in an orderly array (ref. #10 of fig. 1), and a data distributing circuit (ref. #3 of fig. 3)(refers to instant claimed source driver)(see e.g. col. 6, [0020]; col. 12, [0035]-[0038]; figs. 1 and 3). As illustrated in fig. 1, the data distributing circuit comprises registers (ref. #31, 32, and 33), a clock generator (ref. #42)(refers to instant claimed a timing control), current drivers (ref. #21, 22, and 23), comparators (ref. #51, 52, and 53), and counter ((refers to instant claimed voltage setting means)(see e.g. col. 12, [0036]-[0040]; col. 13, [0041]-[0044]; col. 14, [0048]; col. 15, [0050]).

The teachings of Tokimoto et al. differs from the presently claimed invention as follows:

For *claims 29 and 38*, Tokimoto et al. fail to disclose a bit-data adding means for adding M bits to the data input from the register.

For *claim 30*, Tokimoto et al. fail to disclose that the M bits are one bit.

However, Saitou teach the limitations that are deficient in Tokimoto et al. as follows:

For *claims 29 and 38*, Saitou discloses a matrix electroluminescence display apparatus (see e.g. Abstract; col. 1, lines 6-7; col. 2, lines 26-29; col. 3, lines 45-51; fig. 1 and 2). The

Art Unit: 2629

device comprises a register, latch, a counter, and a pulse width modulation (see e.g. col. 1, lines 54-67; col. 3, lines 45-51; fig. 3). As illustrated in fig. 5, the pulse width modulation include an adder (ref. #20) which add M bit data to N bit data (see e.g. col. 3, line 53 thru col. 4, line 3).

For **claim 30**, Saitou discloses that the M bit data is one bit (see e.g. col. 3, line 53 thru col. 4, line 3; fig. 5).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to disclose a bit-data adding means for adding M bits to the data input from the register wherein the M bits are one bit as taught by Saitou in the apparatus of Tokimoto et al. One of ordinary skill in the art would have been motivated to disclose a bit-data adding means for adding M bits to the data input from the register wherein the M bits are one bit in the apparatus of Tokimoto et al. for the advantage of providing a matrix electroluminescence display apparatus wherein the output timing of the driving signal for every column can be controlled and the gray scale can be accurately pulse-width modulated (Saitou: col. 3, lines 17-23).

Therefore, the combine teachings of Tokimoto et al. and Saitou do render the apparatus of the instant claims *prima facie* obvious.

Allowable Subject Matter

16. Claims 3-6, 8, and 10-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matter:

A. The instant claim 3 is allowed for the reason that the cited prior arts do not teach or fairly suggest the presently claimed apparatus wherein *'the current driver includes a current mode D/A converter including N current sources for outputting currents according to the bits of the display data; an additional current source for outputting a current with an arbitrary value; and a first switch for receiving the control signal and electrically connecting the additional current source and the pixel section to each other only during the given period in the current setting mode'*.

B. The instant claims 6 and 8 are allowed for the reason that the cited prior arts do not teach or fairly suggest the presently claimed apparatus wherein *'the current driver is a current mode D/A converter including: N current sources for outputting currents according to the bits of the display data; second switches respectively provided on output paths of currents flowing in the respective N current sources; N bypasses for shunting and outputting the currents flowing in the N current sources, by way of the respective second switches; and third switches respectively provided on the N bypasses, wherein the third switches are ON with the control signal during the given period in the current setting mode, whereas the third switches are OFF with the control signal during the operation periods other than the given period'*.

C. The instant claim 10 is allowed for the reason that the cited prior arts do not teach or fairly suggest the presently claimed apparatus wherein the comparator compare *"the output voltage of the voltage setting means with an output voltage of the current driver and outputting the comparison result to the timing control unit"*.

D. The instant claim 13 is allowed for the reason that the cited prior arts do not teach or fairly suggest the presently claimed apparatus wherein *'the voltage setting means is a dummy circuit including: a dummy pixel section which is provided on the display panel, includes a TFT and a capacitance and is not used for a display; a dummy signal line provided on the display panel and supplying a current to the dummy pixel section; and a dummy pixel driver provided in the source driver, connected to the dummy signal line and the comparator and including a dummy current driver for outputting a constant current during operation'*.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to MY-CHAU T. TRAN whose telephone number is 571-272-0810. The examiner can normally be reached on Monday: 8:00-2:30; Tuesday-Thursday: 7:30-5:00; Friday: 8:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

My-Chau T. Tran
March 25, 2007

 3/25/07
MY-CHAU T. TRAN
PATENT EXAMINER